FEATURE ARTICLE: THE FED IS FORGING AHEAD

Source: Andrew Harrer/Bloomberg

THE FED IS FORGING AHEAD

From 2008 to the end of 2015, the US Federal Reserve was willing to pull out all the stops to ensure ongoing financial market stability and a strong economic recovery following the global financial crisis. For the past few years however, the Fed has been trying to increase the federal funds rate from the 0% lower bound that it had been at for seven years. It proceeded with caution however, as it wanted to ensure that the economy was strong enough to weather an increasing interest rate environment. Any wobble in economic data, and the Fed delayed a rate hike indefinitely. This was the case throughout both 2015 and 2016.

In 2017, the Fed is singing a different tune, having already increased the rate twice, by 25 basis points in both March and June. Weaker than expected inflation data over the past several months has not deterred the Fed from its path like soft economic data has in the past. Instead, Janet Yellen and the other Federal Open Market Committee (FOMC) officials appear to be concerned that the ever-tightening labour market could cause a sudden and sharp increase in inflation. Is the Fed getting ahead of itself? Increasing interest rates despite persistently low inflation is a dangerous game to play.

In this month's feature article, we delve into the current state of affairs of the Federal Reserve. We discuss what economic indicators back up the Fed's tightening stance, but then show that inflation, particularly wage inflation, does not provide the typical backdrop for monetary tightening. In the latter half of the feature article, we explain why the Fed is throwing caution to the wind, and what the implications could be for financial markets as well as investment strategy.

1.1 The Fed's Been Busy

In the midst of the financial crisis, the Fed, under the leadership of the then Chair, Ben Bernanke, slashed the federal funds rate to a target range of between 0% and 0.25%. For close to eight years, the Fed did not change this target range. In December 2015, the FOMC finally agreed that the US economy had sufficiently recovered to rationalise a 25-basis point increase to the federal funds rate. With the December 2015 rate increase came the guidance that the market could expect up to four interest rate increases over the course of 2016, however the central bank only delivered on one interest rate hike – an additional 25 basis point increase in December 2016. While the Fed had indicated that the normalisation of interest rates should be expected to be gradual and controlled, it appeared that Yellen and the FOMC were hoping for perfectly optimal market conditions to indicate that an increase to the federal funds rate was justifiable.

So far in 2017, the Fed seems to have changed gears. The FOMC has voted to increase interest rates in both March and June, by 25 basis points on each occasion. As of its meeting in June, the majority of the FOMC expects that there could be one additional increase to the federal funds rate by the end of 2017. By the end of 2018, the FOMC median member projection is for the target range to be between 2-2.25%, a percentage point higher than it currently is.

It is not just interest rate increases that have been keeping the Fed busy over the past several months. Rumours have been spreading with regards to the timing of if and when the Fed will embark on its plan to 'normalise' its balance sheet. The Fed injected a massive amount of liquidity into the market in the midst of the financial crisis, primarily through its lending facilities, in an effort to promote economic recovery and financial stability. This injection of liquidity (quantitative easing) caused the Fed's balance sheet to grow from less than US$1 trillion in 2007 to the US$4.5 trillion that it is today. The Fed stopped buying large volumes of securities in October 2014, but have instead kept its balance sheet relatively constant, so as to buy just enough securities to replace those that are maturing.

At the June FOMC meeting, Yellen confirmed that the balance sheet normalisation process will begin sooner than previously thought. Rather than have the securities rolled over and reinvested, securities will be rolled off, with a monthly cap set for the volume that can be rolled off. Initially, these caps have been slated to be set at US$6 billion per month for Treasuries and US$4 billion per month for MBS'. The caps are projected to increase over the course of a year, such that eventually the cap will be US$30 billion per month for Treasuries and US$20 billion per month for MBS'. The Fed will be looking to tread carefully as it undergoes this normalisation process, in an effort to avoid any market turbulence. The FOMC has explicitly laid out its plans for the caps and the increases to them so that the normalisation can be done in an orderly way, or as Yellen put it, it can *'run quietly in the background'*.

1.2 Softer Economic Data

As compared to some of its peers, the US economy has recovered well from the financial crisis, with many economic indicators painting a particularly rosy picture of the economy as of late. The country's unemployment rate is at a 16-year low of 4.3%, manufacturing PMIs suggest that economic activity in the sector is strong, and consumer confidence

surged through 2016 and into 2017. These data points are those that the Fed has been relying on to make its case for increasing interest rates and kicking off the process of balance sheet normalisation. However, despite the improving conditions in the labour market (at the headline level at least), growth and inflation, particularly wage inflation, have been missing expectations lately.

Growth

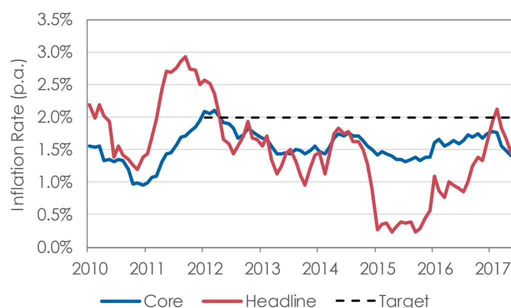
Over the past few years, the annual GDP growth has fluctuated, but has stayed at or below a 2% annual growth rate. While the globe is currently facing a lower economic growth predicament, the US has a tighter labour market than most other countries, so would expect a higher rate of economic growth. Donald Trump promised to deliver an annual growth rate of 4% per year through his effort to *'Make America Great Again*' by bringing back jobs to the US, as well as stimulating the economy through the negotiation of 'better' trade deals and by slashing both personal and business tax. The likelihood of such a promise being delivered is highly uncertain given the headwinds Trump has so far faced.

Inflation

In early 2012, the Fed adopted an inflation target for the first time, aligning itself with many of the world's other prominent central banks who were already inflation-targeting. The target was set at 2%, a level the Fed considers to be aligned with its mandated goals of price stability and full employment. Before the target was formally set, the Fed had an unofficial targeted range of inflation of 1.7-2%.

It is important to note that the Fed's target of 2% is just that, a target, rather than a ceiling. It is critical to clarify that point, because as the chart below shows, the measure of inflation that the Fed monitors (the 'Core' rate in the chart below) has been below 2% since the target was set. The measure of core inflation excludes both energy and food, items that typically have very volatile prices, whereas the headline inflation includes both.

Chart 1: US Core and Headline Inflation, 2010 - 2017

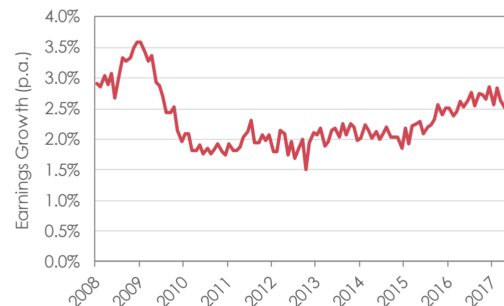


Source: Bureau of Economic Analysis, Whitehelm Advisers

Wage Inflation

Over the past 25 years, across the US, average annual earnings rose by just shy of 30% in inflation-adjusted dollars, from $42,200 to $54,400. This is equivalent to a 1% increase in real wages per year. The chart below shows the nominal growth rate of average annual earnings in the US from just before the financial crisis to the end of May, showing that wage inflation is lower now than it was before the crisis.

Chart 2: Nominal Growth Rate of Average Annual Earnings, 2008 - 2017



Source: Bureau of Labor Statistics, Whitehelm Advisers

While the Fed can tolerate the core inflation rate undershooting its target, it is the consistency with which the inflation rate has been lower than the target that is concerning. What is causing the consistent undershoot? General inflation continues to miss the mark for a variety of reasons, including lower inflation expectations, the global market for goods and services, the type of monetary policy being used for the past eight years and technological advances. For the remainder of this feature article however, we focus on wage inflation, and why it has continued to miss the mark.

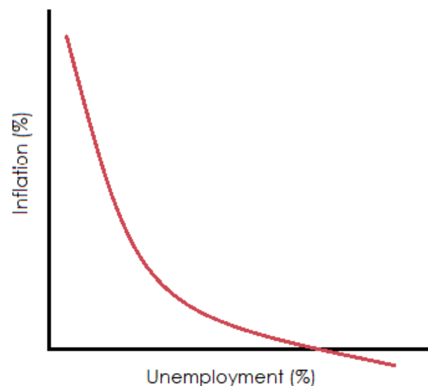
1.3 What is going on with wage inflation?

Low wage inflation is not an issue unique to the United States. Australia's wage inflation has never been lower in the 20 years that the Australian Bureau of Statistics has been recording the data. Europe is also dealing with low wage inflation, despite recently stronger economic growth than the continent has seen in years.

At this juncture, it is important to discuss an economic theory that is central to understanding the relationship between the labour market and wage inflation. The Phillips curve is an empirical model derived by A.W. Phillips in the 1960s that is based on a single equation that describes an inverse relationship between unemployment and inflation. A simple depiction of the relationship is shown in Figure 1 below. The Phillips curve is a theoretical

relationship that the Fed has relied on extensively in its data-based decision-making in its implementation of monetary policy.

Figure 1: Simple Depiction of Phillips Curve



Source: Whitehelm Advisers

The reasoning behind the inverse relationship is as follows: a tight labour market generally means that businesses must compete to hire skilled workers, which should lead to higher wages. As wages increase, the businesses will eventually have to pass on some or all of the costs on to their customers, which should lead to higher inflation.

With this in mind, it is important to dive deeper into why this relationship does not seem to be holding in current market conditions, given the seemingly tight labour market, yet the persistently low wage inflation.

1.3.1 The Labour Market is Tight, Right?

The American labour market appears to be very tight if we look solely at the unemployment rate. It is currently at 4.3%, the lowest it has been since the early 2000s, having fallen by 0.4% so far this year. On top of the low unemployment rate, there are also mounting complaints by employers of labour shortages, or of not being able to fill empty positions. This has pushed the number of job postings, or vacancies, to the highest level since the start of the century. The initial jobless claims figure (the number of people who have filed jobless claims for the first time) has also been falling consistently since its peak amid the financial crisis.

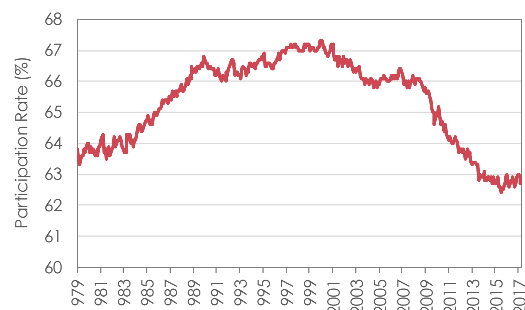
Through these three metrics – the headline unemployment rate, the number of job postings and the number of jobless claims, we can garner that the American labour market is tight. Job growth has been strong, and less people are unemployed. Employers are even having trouble filling vacant positions. These are typical conditions that would drive up wage growth, but unfortunately this has simply not been the case. So, is the labour market as tight as these metrics might suggest?

1.3.2 Or is it?

To understand why wage inflation continues to be low, it is important to look at labour market statistics other than just the headline unemployment rate. A metric such as the headline unemployment rate can often paint an economy in a certain light and hide some of the underlying inconsistencies or difficulties. In the case of the American labour market, it is important to examine the labour force participation rate. The participation rate measures the proportion of the active labour force as compared to the total population, with the active labour force defined by those that are either employed or are actively looking for work and are at or above the legal working age of 16. Those not included in the participation rate are those who cannot work or do not want to work, including students, retirees, incarcerated people, homemakers, and others. It is important to look at the unemployment rate and the participation rate together because the unemployment rate can decrease if people have become so discouraged by not being able to find work that they leave the workforce altogether. Such a scenario results in a reduction in the unemployment rate, despite being an indicator of labour force weakness. It would be captured by a fall in the participation rate however.

As the chart below shows, the participation rate has fallen quite significantly since the financial crisis, although the downward trend had kicked off even before that, at the turn of the century. It is important to note that the fall in the participation rate is not entirely from disgruntled people who have given up finding work. There is also an underlying structural shift that is occurring in the economy that has caused the unemployment rate to decrease, including the retirement of the baby boomer generation and an increase in the number of young people opting to go to university rather than joining the labour force straight after high school.

Chart 3: US Labour Force Participation Rate, 1979 - 2017



Source: BLS, Whitehelm Advisers

An additional metric showing that the US labour market does still have some additional room to tighten is the U-6 unemployment rate, or the underemployment rate, which is shown in the table below. It has fallen considerably since the peak in the midst the financial crisis, to a level of 8.4% at the end of May 2017. While this is a very positive development in terms of the strength of the labour market, the chart shows that this rate has been lower within the past 20 years. In late 2000, the U-6 unemployment rate fell to 6.8%.

Chart 4: U-6 Unemployment Rate, 2000 - 2017

Source: BLS, Whitehelm Advisers

As the headline unemployment rate has been falling, the country's tight labour market has consistently been making headline news. However, there are certainly points of weakness within the labour market. The falling participation rate, shows that there are structural issues within the American labour market that show that it is not as tight as it appears, and also provides some insight into why wage inflation has not ticked up as much as would be expected with such a low unemployment rate.

The slack in the labour market is not the only factor that has been a deflationary force for wages. Weak productivity growth as well as the introduction of constantly improving technologies in the workforce have been keeping wages down, as has the increasingly concentrated corporate sector.

1.4 Why is the Fed forging ahead without evidence of inflation?

As we discussed so far in this feature article, wage inflation and inflation in general continue to be low, lower than the Fed's target for it, and lower than it would typically be for the Fed to embark on a monetary tightening path. In this section, we discuss why the Fed is embarking on such a path, and then we discuss the potential implications of such a plan.

Regain Control of Monetary Policy

When the target range for the federal funds rate was set between 0% and 0.25%, the FOMC did not have much room for manoeuvre if the American economy underwent an additional downward shock of some sort. Arguably, the FOMC could have decreased the target range further, into negative territory, although this would have been a controversial move because of the implications that negative interest rate policies have for savers, as well as their minimal success (if not outright failure) in Europe and Japan.

One of the primary rationales for the FOMC increasing interest rates despite sluggish growth and weak inflation, is so that the Fed has additional monetary policy space to react when the next economic downturn occurs. From mid-2007 to the end of 2008, the Fed cut the lower bound of the target range of the federal funds rate from 5.25% to 0%. By increasing interest rates now while the economy is not in a recession, it is hoping that it will be nimbler when the next recession hits. It is doing so hoping that the increase in interest rates without solid proof of growth or inflation is not the culprit for the next economic downturn.

Phillips Curve

Both fiscal and monetary policies have historically been set with the Phillips curve in mind. It was believed that using either or both of these policies to increase aggregate demand would cause the demand for labour to increase, the pool of available labour to decrease, forcing businesses to offer higher wages to attract talented employees. While theoretically this relationship makes sense, the Phillips curve has received considerable criticism, including in the 1970s when the American economy faced a period of stagflation – high rates of both unemployment and inflation.

Despite the FOMC addressing the fact that the theory behind the Phillips curve does not hold in all market environments, it appears as though the FOMC is not eliminating the possibility that the relationship could hold true and the further tightening of the labour market could result in a sharp jump in the inflation rate. Without the two rate raises so far this year, the Federal Reserve would still have been able to act if inflation expectations started to increase gradually. It appears however that the FOMC is acting as if it is trying to be prepared if there were to be a sudden and sharp increase in inflation that materialised overnight. Such an increase in inflation expectations would cause the FOMC to have to respond very swiftly (and as a result, painfully for many) to try to reset inflation expectations back to its target of 2%.

Reputation on the Line

Part of the FOMC's push to 'normalise' monetary policy in 2017 could be because the reputations of the current governors are on the line, particularly that of Janet Yellen's. While this is broadly speculation given that we do not know the psyche of

each of the members, we do expect that a significant amount of pride is at stake when it comes to the lasting legacy of a Chair of the Board of Governors. Yellen was nominated to the position in 2014, when the federal funds rate was still hard up on its lower bound and the Fed's balance sheet had reached its maximum. Yellen would likely not want to end her term as Chair with the interest rate still well below the central bank's longer-term target, particularly given the headline strength of the labour market.

1.5 The Risks at Play and the Implications

One of the main risks at play with the Fed's current plan is that increasing interest rates when inflation continues to undershoot its target is that it could cement inflation expectations at this lower level. Lower inflation expectations typically lead to lower inflation. As the economic expansion continues, lower than targeted inflation is manageable, but it is troubling when the next downturn hits because the current level of inflation provides virtually no buffer for the next bout of deflation.

Additionally, by locking in lower than targeted inflation, and by raising interest rates when the economic climate might not be ideal for increasing interest rates, Trump might have significantly more difficulty *'making America great again'*. Growth will be curbed and wage inflation capped for a while longer, undoubtedly to the frustration of the lower-class population that Trump has set out to help.

Could this tightening cycle lead the US economy into a recession? This would not be the first time that this would be the outcome of a monetary tightening cycle, as per the chart below. Economic expansions do not typically die of old age, rather they die because of an external shock, a domestic imbalance, or increasing interest rates. Since 1915, there have been 13 cases where the Fed has tightened monetary policy, 10 of which ended in a recession.

Chart 5: Federal Reserve's Tightening Cycles, 1915 - 2017

Source: BofA Merrill Lynch, ZeroHedge

In the sections that follow, we discuss the implications for debt and equity markets should the Fed continue to tighten monetary policy, as well as the implications for infrastructure assets.

Bond Markets

The most prevalent threat that faces financial markets as the Fed embarks on its policy normalisation path is the accumulation of debt that has occurred around the world. The cheap credit on offer thanks to the ultra-low interest rates over the past nine years has fuelled a credit binge. Per a report from the Institute for International Finance, total debt hit a record of US$217 trillion in the first quarter of 2017, which is equivalent to 327% of global GDP.

Increasing short-term interest rates come with an obvious hardship for those who are issuing debt by way of higher debt servicing costs. On the other hand, bondholders will see the value of their fixed interest portfolio fall – as bond yields rise, prices fall. This comes after a 25-year bull market for bonds which has been supported by the low interest rates.

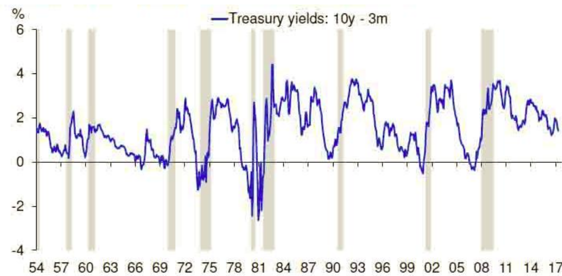
Longer-dated debt is typically hit harder by increases to interest rates because of the concept of duration, or interest rate sensitivity. Given the low starting point for short-dated and long-dated bond yields, an increase in yields could cause the return on US Treasuries to go negative, as the income earned from the coupons on the bonds could be offset by the negative price impact from the increasing yields.

It is important to note that the Fed only has direct control over short-term rates, and does not have direct control over the long-term rates, which are largely determined by market forces. The 10-year US Treasury bond yield has been holding relatively steady over the past three years, broadly speaking, between 1.5-2.5%. Long bond yields have been anchored strongly to inflation and growth expectations in the past three and a half years, and given that both have been subdued, so too have been yields. The largest rise in the 10-year Treasury bond yield came in the aftermath of the US election, as yields jumped based on the premise of Trump implementing fiscal policies that would bring inflation through sooner than previously expected.

Should we expect long bond yields to continue to digest the monetary tightening actions from the Fed with ease? If we continue to see softer economic data out of the United States, this is possible. This would result in the spread between long-dated and short-dated Treasury bills to tighten markedly. Consider the chart below that shows the yield spread between 10-year US Treasuries and 3-month US Treasuries. The grey bars denote recessionary periods. In the lead-up to each of the recessions, the yield curve had

inverted (or flattened significantly), or the spread between the 10-year Treasury and the 3-month Treasury narrowed or went negative.

Chart 6: Yield Spread Between 10-Year and 3-Month Treasuries, 1954 - 2017



Source: FRB, Haver Analytics, Deutsche Bank

The chart shows that the spread between the 10-year and 3-month Treasuries has been narrowing as of late – if cash rates were to continue increasing and yields on the long end decrease, it would be a clear signal that the bond market is not buying the Fed's strong economy story, which would be worrying with respect to the likelihood of a recession.

Equity Markets

Central bank decision-making has been the primary driver of equity market returns since the financial crisis. As monetary conditions have remained easy, equity markets have continued to look attractive yet expensive. It is not hard to imagine then why there is worry amongst equity investors with regards to the implications of the Fed embarking on a monetary tightening policy. The old mantra of 'Don't Fight the Fed' has been the right one to live by in an investment sense. What does an investor do now if the Fed is hiking against a backdrop of soft data?

In past monetary tightening cycles, for example the ones starting in 1994, in 1999 and in 2004, as the Fed was starting to raise interest rates, the S&P 500 went up (although, initially, there were small decreases in the S&P 500 as the market digested the news of increasing interest rates). From February 1994 to June 1995, the federal funds rate was increased by 2.7%, and the S&P 500 went up by 17%. From June 1999 to March 2000, the federal funds rate was increased by 1.25%, and the equity market went up by 29%. And from June 2004 to August 2007, the federal funds rate was increased by 4%, and the S&P 500 rose by 29%.

So, are we suggesting that the Fed's plan to 'normalise' interest rates will cause the equity bull market to continue? We acknowledge this possibility if it goes hand in hand with strong economic activity and higher inflation. If the improving fundamentals are not there, we think it has negative implications for asset prices.

When the dotcom bubble burst in 2000, the S&P 500 fell by 26%, during the time that the federal funds rate was slashed by 5.5% from December 2000 to June 2003. When the subprime mortgage bubble burst in 2008, the S&P 500 fell by 39% from August 2007 to December 2008 (when the federal funds rate was cut from 5.25% to 0%).

It is important to remember that market conditions are different now than they were in the lead-up to the past two monetary tightening cycles. The US equity market is currently very expensive compared to long-term historical averages, as measured by the cyclically adjusted Price/Earnings ratio (CAPE), also known as the Shiller ratio, which is based on average earnings over 20 years, adjusted for inflation.

On this measure, the US equity market is currently more expensive than it was in the lead-up to the financial crisis, and above the 95th percentile over the period from 1900 to present day. This is important because the Shiller ratio has historically been a strong indicator of subsequent performance over the next decade. When markets look cheap on this measure, they have tended to outperform, while when markets have looked expensive, they have tended to underperform.

We must question how much more expensive US equity markets can get before we see a correction, and policy normalisation from the Fed could be the trigger for it. It should be noted however that the Shiller ratio is only useful for predicting subsequent performance over the relatively long time period of 10 years. It is less useful in predicting turning points and market timing decisions. Markets can go on to become more expensive for some time, however the expensiveness of the market currently suggests that it could hit a turning point sometime soon.

The FOMC tries to be as transparent as it possibly can to try to ensure that share markets do not get spooked by a sudden shift to its monetary policy framework. Additionally, it plans to have a gradual and predictable approach to its policy normalisation process so that businesses can plan for the change to market conditions and shrug off the interest rate increases when they happen, all the while continuing to invest in jobs and growth.

If this is the path the Fed embarks on – slow and steady with the data showing that growth and inflation are strong – then we might expect equity markets to deal with the changing market conditions relatively well. Companies should be able to manage the increasing debt servicing and wage costs, because of the impact that the strong economic growth has in terms of jobs and investment. This is exactly what the Fed is trying to do, but whether it will be successful is still highly uncertain.

While much of this article has been focussed on the Fed normalising too early, there is also the risk of unsuccessful monetary tightening if inflation shoots up much faster than expected, and the Fed has to chase down inflation with sharp and fast interest rate increases. Getting the right path and the right speed is very difficult.

Impact on Infrastructure

For real assets such as infrastructure, there are likely to be a range of outcomes. If inflation is strong, then for inflation-linked assets, performance should be good as inflation-linked revenues will drive earnings. If economic growth is strong, then sectors with greater economic sensitivity such as ports, airports and toll roads should do well. To the extent that inflation and growth do not materialise, then assets with more fixed increment income streams will outperform. Low interest rates have been a tailwind for infrastructure assets, but they are more sensitive to long-term rates increasing considerably and are less sensitive to cash rates moving higher. Furthermore, we consider that the long-run growth potential of most developed economies has declined, and therefore absent a significant spike in inflation and holding everything else constant, interest rates are likely to be lower than those seen on average over the past 30 years.

Navigating through this environment could be a challenging one, and a range of both good and bad scenarios for real assets is very plausible. A well-diversified portfolio of core infrastructure assets with some dry powder available for new investments is probably the best starting point for investors to have as we enter this uncertain period.

1.6 Conclusion

The ongoing economic expansion in the United States is in the midst of an eight-year run, the second longest in its history. Optimists argue that the expansion will continue, buoyed by strong jobs growth, fiscal policies implemented by the Trump administration and the re-emergence of the American manufacturing sector. Pessimists argue that the likelihood of the proposed fiscal policies being implemented is fading with every passing day and despite the relatively strong recovery, labour market wage inflation continues to be low. Up until 2017, the Fed wanted to ensure that market conditions were perfect before raising interest rates and often cited the room for improvement in the US economy. In 2017 however, it appears that the Fed is willing to take a chance on less than ideal economic data to ensure that it has breathing room to deal with the next economic slowdown whenever that may be.

We consider the Fed's current path is potentially concerning (particularly for asset markets), given that the lack of proof of consistent and sustainable growth and inflation would mean that the Fed is getting ahead of itself, increasing interest rates when the economy might not actually be strong enough to handle it. That said, comments from Yellen in mid-July suggest that the FOMC will be sure to monitor economic data and if it is consistently soft, it will slow the pace of its policy normalisation. We expect the Fed to be cautious going forward, looking for economic indicators upstream that will determine the appropriateness of their monetary policy decisions. However, there are many factors at play, including pride, peers and political pressure which will encourage the Fed to move rather than sit on its hands.

As the most prominent central bank in the world, the Fed's actions have far-reaching and long-lasting implications. If the Fed does embark on a slow and steady path to monetary policy normalisation, the market could very well adjust to the higher rate environment. However, the Fed's tightening cycles have typically led to recessions in the past, and this one might not be any different.

This feature article is a condensed version of a more in-depth article. If you are interested in accessing the longer-form version, contact Nicole McMillan at Nicole.McMillan@WhitehelmCapital.com.